

The Seventh National Information Day: Open Access to Scientific Information and Data

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Abstract. The paper draws the current state of Bulgarian Open access (OA) activities and discussion points for the Seventh National Information Day: Open Access to Scientific Information and data.

Keywords: Open Access, Access to Knowledge

1 Introduction

Some of the main activities in Bulgaria concerning the open access to scientific information and data during the last year were:

- Maintain the National Open Access Desks, which connect researchers, research institutions, and policy makers at a national level on the one end, and the OpenAIRE project services on the other. The focus of the National Open Access Desks activities is on support for compliance with the EC Open Access policies;
- Maintain the Bulgarian repositories for Open Access;
- Develop a policy vision for the development of the Open Access and Open Data, presented to the EC.

Bulgaria is a part of EU OpenAIRE2020 project. Through the project we contact and outreach: awareness of policy makers and research funds; awareness of National contact points; awareness of research administrators; services for project coordinators; awareness of researchers. The main project dissemination results include: promote open availability of publications and data and participation in scientific conferences in Bulgaria. Bulgaria is also a part of the ERAC Standing Working Group (SWG) on Open Science and Innovation and the Ministry of Education of Science acknowledges and shares the challenges being discussed. The Working Group has been tasked by ERAC to develop initial recommendations by mid-2017 and subsequently updating them according to ERAC's needs. In March 2016, Bulgaria presented a National Vision and Action Plan for covering the ERA priorities including Open Access to scien-

tific information and data. The concept and principle of Open Science was thoroughly discussed by the Working Group for Amendment of the Law for promoting scientific research, set up by the Ministry of Education and Science, with main topics being about implementation of the Open Science Concept in Higher Education Institutions, Scientific Organizations and the National Scientific Fund. The Concept has several set key activities for achieving the goals of the policy: enhance access to scientific information and the circulation and use of knowledge for research and innovation for the benefit of scientists, research institutions, education, businesses, citizens and society at large, with the issues being considered primarily from the perspective of end-users.

We also actively participate in the PASTEUR4OA project activities.

In the last year the *Sixth International Conference Digital Presentation and Preservation of Cultural and Scientific Heritage—DiPP2015* was held from 28 to 30 September 2015 in Veliko Tarnovo under the patronage of UNESCO. Its aim was to present innovations, projects, theoretical and applied research in the field of digitisation, documentation, archiving, presentation and preservation of global and national tangible and intangible cultural and scientific heritage. The main stress was placed upon providing open access to digitised national cultural and scientific heritage and the pursuit of sustainable policies for their continued digital preservation and conservation. The digital presentation and preservation of monuments of culture and history under conditions of risk was a priority area.

The national information day "Open access to scientific information", organized last year, invited: 1) representatives of national institutions (including the Ministry of Education and Science, Ministry of Transport, Information Technologies and Communication, Ministry of Culture) responsible for the development of open access policies, 2) representatives of Bulgarian institutions (research institutes and universities) active in the implementation of open access policy and programme. The national information day covered activities such as:

- Discussions on research problems in the field;
- Discussions on possibilities of establishing a network of open access repositories;
- Dissemination of partners' best practices;
- Development of study on the harmonization problems of national legislation and practices;
- Discussions on possibilities for developing a training course for PhD students and young researchers in the field; a discussion on possibilities of developing a training course for developers and managers of scientific digital repositories to ensure interoperability;
- Consideration and formulation of recommendations for the development of policies for the promotion of open access.

The main results of the organized workshop are: The Workshop participants learned the main concepts for the implementation of OA principles and national OA roadmap, key terms, strategies, business models, work plans, copyright and licenses, best practices, examples and policies for open access, open data and open science. The academic staff (young and experienced researchers) and research project managers prac-

ticed OA and acquired knowledge and skills on how to write, publish and deposit articles, scientific data and materials in OA repositories, OA repositories maintenance, etc. The policy makers and staff working in funding bodies acquired practical skills for writing OA policies, strategies and plans.

2 Bulgarian OA repositories

In table 1 the current open access repositories in Bulgaria are given:

Table 1. The current open access repositories in Bulgaria

Reported repositories in OpenDOAR	Total Publications	Software	Link
BulDML at IMI-BAS	2359	DSpace	http://sci-gems.math.bas.bg
BGOpenAIRE at IMI-BAS	119	DSpace	http://www.bg-openaire.eu/
Research BFU - Burgas Free University	483	DSpace	http://research.bfu.bg:8080/jspui/
Research SU - Sofia University	900	DSpace	https://research.uni-sofia.bg/
MU-Varna Medical University	173	EPrints	http://eprints.mu-varna.bg/
MU-Sofia Medical University	1008	DSpace	http://nt-cmb.medun.acad.bg:8080/jspui/
NBU-Repository - New Bulgarian University	2064	EPrints	http://eprints.nbu.bg/
Unregistered Repositories			
DSpace at Paisii Hilendarski University of Plovdiv	372	DSpace	http://dspace.uni-plovdiv.bg/
NALIS Foundation Repository (abstracts of PhD theses)	329	DSpace	http://digilib.nalis.bg/xmlui/handle/nls/96/browse?type=title
Trakia University - Digital Repository	31	DSpace	http://dspace.uni-sz.bg/

In Figure 1 the number of open access journals in Bulgaria are given.

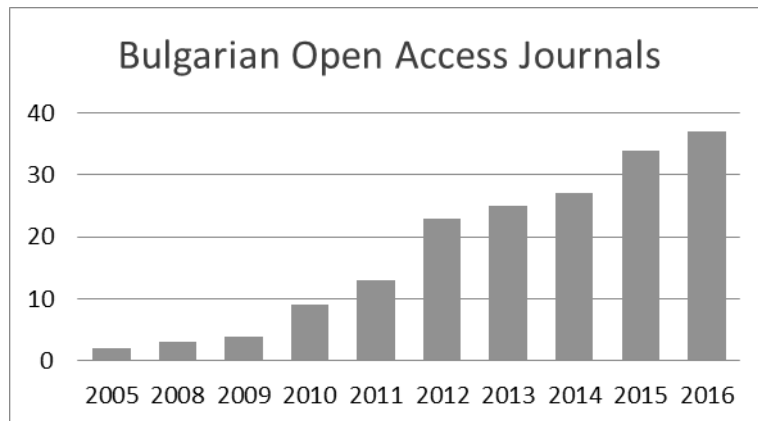


Fig. 1. The number of open access journals in Bulgaria

In Figure 2 the software used for OA repositories in Bulgaria is outlined.

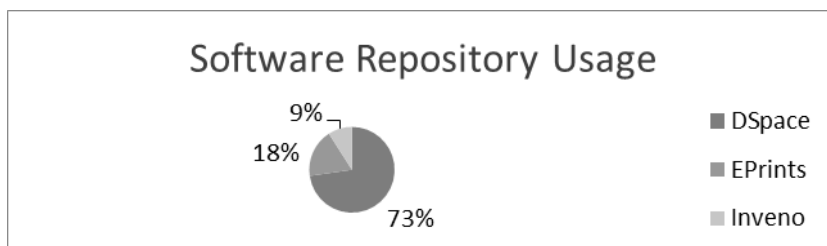


Fig. 2. The software used for open access repositories in Bulgaria

In Figure 3 classification of the Bulgarian repositories by size is presented.

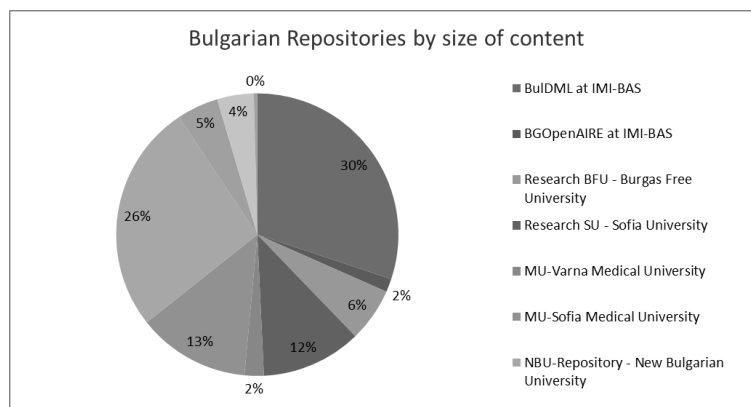


Fig. 3. Classification of the Bulgarian repositories by size

3 Bulgaria Open Science policy

The Open Science policy needs to be implemented not only by amending the Law for promoting scientific research, but also using the instruments set in the Operational plan of the National Strategy for Development of the Scientific Research 2025 project.

The following recommendations were adopted:

Recommendation 1. The Ministry of Education and Science shall establish a policy of open access.

The national policy of open access should be formulated on the basis of the green model, within which quality is ensured by scientific publications. This should embrace all research institutions which perform and/or disseminate fully or partially state-funded research. Access to the results of state-funded research should be provided to the greatest possible extent.

Recommendation 2. Scientific institutions and foundations shall also establish policies on open access.

All research institutions and public foundations should implement open access policies consistent with the national policy of open access.

Recommendation 3. Universities and other research institutions shall implement and promote the open access policy.

All universities and research institutions should encourage open access policies which are consistent with the national policy of open access.

Recommendation 4. Exploring the opportunities for coordination between the bibliometric indicator and the open access policies.

An investigation should be carried out to find out whether it is possible to achieve coordination between the bibliometric indicator and open access.

Recommendation 5. A single joint national database for research has to be established.

All state-funded research should be entered in the databases of all research institutions and/or be connected in a joint portal for research.

Recommendation 6. Exploring the need for a repository for the scientific publications of small research institutions.

An investigation of small research institutions' need of a joint repository should be carried out.

Recommendation 7. Scientific publishers, research institutions and publishers shall prepare a joint document on the transition to open access.

Bulgarian scientific institutions should be encouraged to make suggestions on how to perform the transition of Bulgarian scientific journals to open access.

Recommendation 8. Informing the scientific community.

An information campaign on open access directed to the scientific community should be carried out, in the form of a conference and information materials.

Recommendation 9. Coordinating the open access initiative with similar international initiatives.

Representatives of research councils in international research fora can provide coordination with international policies for open access.

Recommendation 10. Licenses shall receive consideration.

The negotiation of the remuneration of authors within gold open access should be given consideration. Free use of green access and transparency in payment of services should be ensured.

Recommendation 11. Participation in national fora for cooperation in the field of interoperability and repositories.

Bulgaria's participation in central fora for cooperation such as Confederation of Open Access Repositories (COAR) should be guaranteed.

Recommendation 12. Creating a service for long-term storage of scientific publications.

A service for long-term storage should be created, which will ensure that the digital publications can be read and used for a long time.

Recommendation 13. Planning open access and long-term conservation of the original data.

The archiving of data should be planned, so as to ensure present and future access to them.

4 Topics for discussion during this year's national information day "Open access to scientific information and data "

4.1 Open Science

- **Evaluation in an Open Science context**

- a. Foster evaluation practices that promote the dissemination of scientific results in Open Access, namely by firmly eradicating the use of metrics contrary to the spirit of Open Science, such as the Journal Impact Factor.
- b. Define evaluation methods that takes into account the production of research data and further processing to make such data freely available and reusable whenever possible.
- c. Define adequate impact indicators for research (not necessarily quantitative or numeric).

- **Copyright retention**

Retention of copyright (by the authors or their representatives) of publishable research results obtained through public funding (and data, when appropriate), preventing third-parties to capture those rights without ensuring full Open Access to the work (including text and data mining with no exclusions) with no costs for the authors, even if only by allowing the deposit of a copy of the work in a public Open Access repository.

- **Acknowledge, improve and value the existing European Open Science infrastructure**

Strengthen the Open Access repository infrastructure and make repositories interoperable at the European level by promoting and supporting the widespread adoption of the OpenAIRE guidelines and promote the alignment of Open Access policies by taking on board the recommendations of the Pasteur4OA project.

4.2 Open Innovation

- Clearly define what should be made Open and what should be subject to intellectual property rights protection, in what degree and how such protection should be achieved.
- Open Innovation semantics is important to gain trust of the private sector and keep it engaged in OI: for instance, the definition of concepts such as public vs. accessible vs. publicized knowledge / information.

4.3 Cross-cutting issues

- Knowledge appropriation
 - a. Empower the civil society, namely entrepreneurs, with the required skills for optimal knowledge acquisition and reuse.
 - b. Equip the research community with the skills required to bring them closer to citizens and society, building on the current Open Science context.